



Douglas-Fir Tussock Moth Irruption



What is the Douglas-Fir Tussock Moth?

The Douglas-Fir Tussock moth is a native insect of Yosemite and the Sierra Nevada. The distinctive caterpillar can be readily identified by its four “tussocks,” the line of buffy tufts that runs along its back. It feeds primarily on white fir in the Sierra forests. Historically, Douglas-fir tussock moths have wildly fluctuating populations occasionally punctuated by irruptions (sudden upsurges in numbers) and massive die-off from natural causes – particularly a virus always present in the soil that affects only them. We are currently experiencing the beginning of such an irruption in Yosemite. This year’s caterpillars will finish their feeding cycle and remain dormant after late August; next year’s will resurface in late June, and will be present in potentially much greater numbers than this year. We expect that as a combined result of the virus and dwindling food sources, populations will drop dramatically after next year.

What ecological effects does it have?

Motorists traversing the Chinquapin and Crane Flat areas of Yosemite National Park may notice thinning foliage on the white fir trees. This is visible evidence of feeding by Douglas-fir tussock moth caterpillars. South Entrance and the Mariposa Grove are also experiencing some effects. During an irruption, the caterpillars may kill trees over extensive areas before the virus that affects them spreads widely enough to return populations to background levels.

With decades of effective fire suppression, much more white fir has grown in Yosemite’s mixed conifer forests than was normally present prior to European settlement. The Douglas-fir tussock moth may act as a fire surrogate, or even fire trigger, to reduce overcrowded forests. Natural cycles such as this are one of the forces that have and will continue to change the landscape in this park. In coming years, dead trees in undeveloped areas of Yosemite will provide habitat for the insects that woodpeckers and nuthatches feed upon, homes for owls and flying squirrels, and ultimately, fertilizer for the soil.

What human effects does it have?

The hairs on the caterpillars, egg masses and cocoons may cause allergic reactions in some people. Itching is the most common complaint, but adverse health effects can include rash (with welts or blisters), watery eyes, runny nose, cough and less commonly, shortness of breath, wheezing and chest tightness.

(continued on back)

(continued from front)

Hot weather and perspiration increase the severity of symptoms and individuals with a general history of allergies may be more susceptible to “tussockosis.” The allergic reactions are mostly due to direct or airborne contact with the caterpillar hairs and possibly other particles from the cocoons, female moths and egg masses. Irritation intensity depends upon the amount of contact with the caterpillar and the sensitivity of the person and may be cumulative, with successive exposures resulting in elevated symptoms.

What preventative measures can I take?

- If possible, avoid exposure in infested areas.
- Do not handle caterpillars or any other life stages of the moth.
- Do not handle or disturb leaf litter, bark, wood piles, or any other material that may contain spent cocoons or larval skins.
- Wear a hat with a wide brim and neck shroud as well as a long-sleeved shirt, and launder outerwear after exposure. Do not shake out clothing prior to laundering.
- Wash exposed skin surfaces frequently (hands and face) with soap and water.
- Change clothing more often than usual, especially in areas of heavy infestation.
- If you do get the hairs on your skin, apply a piece of adhesive tape to each of the affected areas. Pull the tape (and hairs) off immediately, then shower or bathe to remove any residual.

What if I’m experiencing symptoms?

Initial Treatment for Mild Symptoms:

- Change clothing.
- Take a cool bath or shower.
- Use an over-the-counter remedy for itching.
- Avoid further exposure.

Severe allergic reactions are rare, but can occur. **Seek medical attention immediately if you experience this type of reaction** and tell your caregiver that you have been exposed to venomous caterpillar hairs.

How can I help?

You can help us track the progress of the moth by reporting observations of severe defoliation, as well as any “melting” (dead) caterpillars hanging from their tails. If you come across such an area, please contact Brian Mattos, Park Forester, at (209) 379-1113.

Where can I get more information?

More information is available on the internet at:

http://egov.oregon.gov/ODF/PRIVATE_FORESTS/docs/fh/tuskmoth.pdf
<http://www.forestry.ubc.ca/fetch2i/DFTM/dftmtot.html>
<http://wlapwww.gov.bc.ca/epd/ipm/docs/dftkmh.html>
<http://medent.usyd.edu.au/fact/caterpillars.htm>

You may also call:

Brian Mattos, Park Forester, Yosemite National Park (209) 379-1113
Ann Krake, Registered Environmental Health Specialist, Yosemite National Park (209) 379-1072